

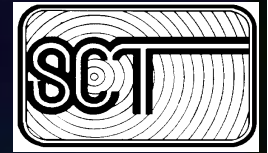
**SECRETARY AT COMMUNICATIONS AND
TRANSPORTS
UNDERSECRETARY OF TRANSPORTS
GENERAL DIRECTION OF FEDERAL MOTOR
CARRIERS
ITS MEXICO COMMITTEE**

TORINO, ITALY

November 9th 2000



ITS COMMITTEE



How evaluation results are used in transportation decision - making

Session 2. What do we know about Intelligent Transportation Systems?

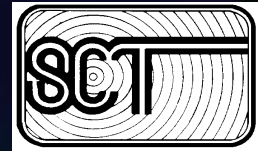
Jose H. Aguilar Alcérreca, Eng., General Director

Jose F. Lobaco Amaya, M. Eng.

Under Director of Technology Development and Safety



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ITS Technology has been apply successful

☺ **Electronic Toll Collection**
(IAVE system)

☺ **Global Position System**
(COPILOTO system)

☺ **Collective Urban Transport System**
(Control and adviser of electric trains, METRO)



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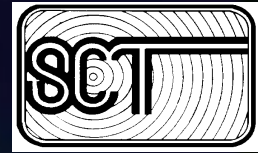


ITS Technology has been apply successful

- ☺ **Control Vehicle System**
(Trains to freight transport)
- ☺ **Electronic Data Interchange**
(ICAVE management system)



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☺ Electronic Tool Collection

IAVE systems was installed in 1992

It's used to electronic fee pay

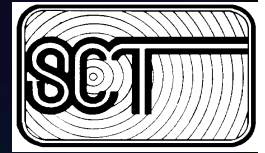
Has 120,000 users approximately

Control 6,160 kilometers of highways

Currently the IAVE systems is partially obsolete,
has been up grade through Modernization of
Administration Program



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😊 Global Position System

Combine GPS with GIS systems

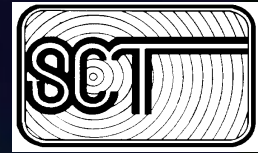
Has been applied through COPILOTO systems

It's used as fleet control, administration and logistic tool

It's used by passenger, freight and courier transport service companies



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☺ Collective Urban Transport System

Train control system was installed in 1982

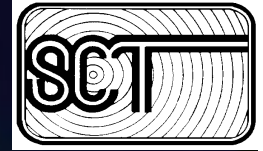
Has been up grade continuously each 2 or 3 years

Control the operations and users services

Operate only in Mexico City



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☺ Control Vehicle System

TFM Mexican Rail Road Transportation

Start to use since 1998

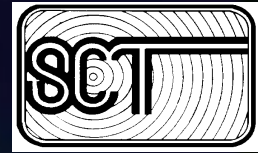
By transponders provide information about wagons

The users has information on line in real time

It's initial application, but cover the main routes and trains from USA to Mexico cities.



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☺ Electronic Data Interchange

ICAVE International of Containers Associates

Control of containers in maritime transport

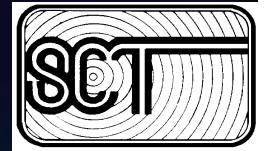
Currently operate only Veracruz Port

Use transponders, stickers and data base systems

It's very efficient to integrate maritime and land modes transport, reducing the stocks and operation times.



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ITS Technology has not been apply successful

☹️ **Traffic Lights and Control System**

(Down town of Mexico City)

☹️ **Tele Direction Traffic System**

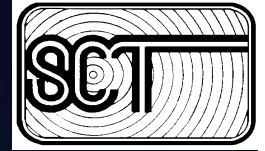
(Dynamic Signal Screen)

☹️ **Smoothen of Border Crossings**

(NATAP: North America Trade Automated Project)



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☹ Traffic Light and Control System

Was acquired last year, but it's obsolete

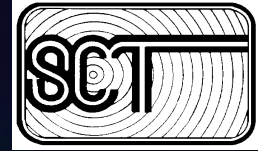
The technology platform is old fashioned

Can use manual form, so is susceptible to human mistakes

Is not coordinate with other system, for example dynamic signal screen, so is not integrate into general frame to develop



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☹ Tele Direction Traffic System

Was acquired last year, but it's obsolete

The technology platform is old fashioned

Can use manual form, so is susceptible to human mistakes

Is not coordinate with other system, for example dynamic signal screen, so is not integrate into general frame to develop



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☹ Smoothen of Border Crossing

NATAP project was good technologically

EDIFAC is the next steep, continue to NATAP; this project include the participation of Canada, USA and Mexico

This project that's right, in technological scope

The administrative procedures among customs, migration, agriculture, security federal and local agencies, has many differences; so this topics represent the main obstacle to correct develop



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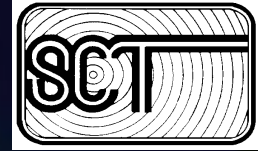


ITS Technology application are in develop

- ✧ **Digital Maps of Routes**
(COPILOTO system)
- ✧ **Dedicated Short Range Communicated**
(Participation in Technical Committee 204 of ISO)
- ✧ **Drivers Assistance System**
(Guide of vehicles, intelligent strip)
- ✧ **Checking Dynamic Weigh System**
(Checking Center of weigh and dimensions)



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Digital Maps of Routes

Develop simultaneous than COPILOTO system

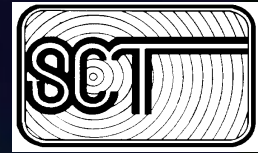
It's base in GPS and GIS technologies

Is used by companies dedicate to distribution of goods and merchandises; it's very useful in fleet administration, stocks and maintenance programs

Every company develop their own system according the necessities and resources



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Dedicated Short Range Communicate

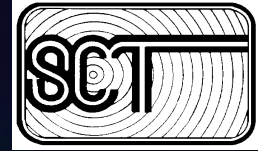
Develop of DSRC standards harmonized for North America transport systems

Integration of ITS Mexico Committee and integration of Under Committee dedicated to DSRC

Registration in Technical Committee 204 of the International Standard Organization



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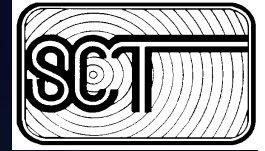
Drivers Assistance Systems

Devices into vehicles for helping to drivers, start to use in Mexico, for example speed control systems, selection routes systems and mechanical and medical assistance system

Devices in the infrastructure for example the intelligent strip; currently has been develop a pilot project in one dangerous zone in Pachuca - Tuxpan road



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Checking Dynamic Weigh System

Has been building the first Checking Center in the Mexico - Queretaro highway; which transit the 40% of the Mexican freight

The checking center building will finished in the first semester of 2001 year

The checking center would control six road lines simultaneously



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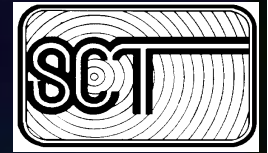


ITS Technology application are undecided

- ☹ Commercial Vehicles Operations
- ☹ Intelligent Highway Initial Project
(Mexico City - Queretaro Highway)
- ☹ Attention to Transit Accidents Victims
- ☹ Vehicle Identification System
(Vehicles of incoming temporally)
- ☹ ITS Testing Center
(ITS Technology Laboratory)



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☹ Commercial Vehicle Operations

In CAPUFE Modernization Program, consider the diversification of services to drivers and travelers

The investment amount are considerable

The transporters participation is undecided



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☹ Intelligent Highway Initial Project

It's planning to develop in Mexico - Queretaro highway

The project include monitored through cameras, dynamic signal, weather sensors, help and emergency systems, use of radio frequency specialized

The investment amount are considerable, beside the frame of participation among private, public (federal, state) and decentralized organism are undecided



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☹ Attention to Transit Accidents Victims

Has been develop an helper and emergencies response systems, integrate the ambulance fleet and hospital and attention health centers

Start to operation in the Mexico City and roads and highways around

Has been develop an stock of ambulances medical doctors and paramedics, checking the training levels



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☹ Vehicle Identification System

Has been develop based in transponders use

The initial application will be the control of foreign vehicles, which income to Mexico territory

Will be connecting to SIIAF (Federal Motor Carrier Integral Information System)

This project depend of DSRC project develop



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☹ ITS Testing Center

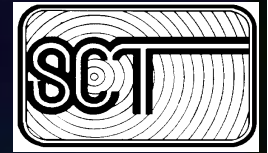
Has been building in Mexico - Queretaro
(Mexico Exit)

Will be administrate by Secretary of
Communications and Transport, through
CAPUFE

Include test circuit, laboratories, administration
area, auditorium, research rooms, computer
center and other facilities



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Thank you